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REMARKS

Claims 1-6, 8-14,16, 18 and19 are pending in the application. Claims 1, 8 and 16 have been amended herein. Claims 7, 15 and 17 have been canceled without prejudice. Favorable reconsideration of the application, as amended, is respectfully requested.

I. ALLOWABLE SUBJECT MATTER

Applicants acknowledge with appreciation the indicated allowability of claims 5-7 and 13-15 subject to being amended to independent form. These claims will be in condition for allowance upon being amended to independent form.

II. REJECTION OF CLAIMS 1-4, 8-12 AND 16-19 UNDER 35 USC §103(a)

Claims 1-4, 8-12 and 16-19 stand rejected under 35 USC §103(a) based on *Nguyen et al.* in view of *Prater et al.* Withdrawal of the rejection is respectfully requested for at least the following reasons.

Claim 1 has been amended to emphasize the feature of the invention whereby, while a selected one of the plurality of sets of coefficients is utilized to filter the digital carrier signal, the equalizer further includes circuitry for simultaneously calculating a new set of coefficients for use by the equalizer for receipt of subsequent frames. Support for such amendment is found, for example, in the present application at page 8, line 24 to page 9, line 14; and page 10, lines 8-11.

As described in the present application, the claimed invention is advantageous in that while a particular frame of the digital carrier signal is filtered, circuitry within the equalizer is running in the background to calculate a new set of coefficients for use by the equalizer for receipt of subsequent frames. The circuitry includes a training sequence buffer 58. The circuitry utilizes the buffered training sequence to calculate a new set of coefficients that are optimized for the distortion encountered in subsequent signals. Thus, while the equalizer filters the received data signal with a given set of coefficients, the equalizer updates the coefficients simultaneously in the background.

This provides the equalizer with more time to optimize a given set of coefficients which then may be stored in the cache. Accordingly, less complex and smaller gate circuits may be utilized. See, e.g., Spec., p. 8, ln. 24 to p. 9, ln. 14; and p. 10, lns. 8-11.

Nguyen et al., on the other hand, describes a system for reducing convergence time based on the selection of an initial set of coefficients stored in memory together with subsequent iterations to optimize the selected coefficients. With each run of the filter, a set of coefficients is selected from among a plurality of sets of coefficients and the circuit attempts to optimize based on the received data. If a sufficient optimization is not obtained, another set of coefficients is selected.

Accordingly, *Nguyen et al.* seeks to optimize the set of coefficients for the particular data signal being received. Although *Nguyen et al.* is able to optimize more quickly than conventional techniques, the reference still requires sufficient circuitry to perform such optimization substantially in real time.

The present invention, on the other hand, filters the received data with a given selected set of coefficients and at the same time buffers the coefficient training sequence and attempts in the background to provide a more optimum set of coefficients to the cache for subsequent data.

Thus, *Nguyen et al.* does not teach or suggest each and every feature of amended claim 1. Moreover, *Prater et al.* does not make up for the above-discussed deficiencies. Accordingly, claim 1 is patentably distinguished over the references.

Claims 8 and 16 have been amended in a manner similar to claim 1. Therefore, these claims may also be distinguished on the same grounds. Furthermore, the claims dependent from claim 1, 8 or 16 may also be distinguished for at least the same reasons. Withdrawal of the rejection is respectfully requested.

III. CONCLUSION

Accordingly, all claims are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

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Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988.

Respectfully submitted,

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